E000P-971096-00
Date: 10/01/99

# MODIFICATION REVIEW

**For**

# BEAMLINE
# PERSONNEL SAFETY SYSTEM

## ARGONNE NATIONAL LABORATORY
## ADVANCED PHOTON SOURCE
## EXPERIMENTAL FACILITIES

**E000P-971096-00**

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Modification Review for Beamline Personnel Safety System

PSS Change Request
01 October 1999

1. PSS Change

   Chain A:

   Chain A will be modified to change the interface between the Front End Equipment Protection System (FE-EPS) and the Personnel Safety System (PSS). The low-true operate signal from FE-EPS to PSS will be removed.

   Chain B:

   Chain B is not affected as the code in the Chains operates independently.

2. Reasons for the PSS Change.

   Currently there is an interface from FE-EPS to PSS that requires two signals for the operation of PS1. FE-EPS can not directly operate PS1. It must request PSS to open or close PS1. PSS will comply with a request to operate PS1 if the request does not violate any of the PSS safety interlock conditions. Operating experience indicates only one of the two signals is required for FE-EPS to cause PSS to operate PS1 correctly.
   The first of the two signals is the low-true operate signal. FE-EPS will bring this signal true when it desires to control operation of PS1 through PSS. The second signal is the high true desired position of PS1. When true PS1 should be open and when false PS1 should be closed. PSS currently ignores the second signal when the first signal is false (high). In all cases PSS will position PS1 open or closed as necessary, based upon PSS safety interlock conditions, while trying to honor the FE-EPS request.

3. Extent of the PSS Change

   This change will affect all Chain A Beamline code written or modified on or after 08 November 1999. The removal of the first signal (the low-true operate signal) will in no way change the PSS behavior since PSS will still try to honor the FE-EPS signal for open or close. Note, the original behavior if FE-EPS were disconnected from PSS would be; The operate signal would be low (true) and the open/close signal would be low (false) indicating a FE-EPS desire to close PS1. The removal of the operate signal will, in no way alter this behavior.

4. Method of Implementation

   The changes will be applied using the existing Software Change Request mechanism as defined in the Software Configuration Management Procedures document E000P-921130 most current version for the Interlock Systems and Instrumentation Group.